* No theory of life can afford to disregard this latent state of vitality: for it teaches an important lesson. A substance which exhibits none of the properties of life may nevertheless differ from all other lifeless matter [in being capable of coming to life on being warmed—something of the same kind may be said of dried seeds and spores]. This difference can be only one of structure for all the specific functions of life have been eliminated by the freezing process . . . the different vital functions which manifest themselves under the influence of heat, light, and other modifications of energy, are but an outcome of the structure of the living being. The key to the solution of the problem of life must therefore be sought for in some peculiarity, not of function, but of structure, common to all living organisms, and in nothing else '. Therefore, he argues : £ The structure of living matter must be radically different from that of non-living matter'. Loewenthal thus rejects the oft-repeated assertion that the essence of being alive is a constant flow of energy-changes, a view which likens the living thing to a flame and to other instances of moving equilibrium. And he goes on to suggest that whereas non-living matter is molecular and colloidal, living matter is a super-molecule comprising a vastly greater number of atoms than any colloidal aggregate or inorganic molecule. He argues, in fact, that every cell is permeated by a spongio-plastic network comprising and continuous with the wall, the muclear membrane and reticulum;

that this network is the really living substance of each cell and is a single molecule of definite spatial structure or architecture. Hence its peculiar properties, different in almost every respect from those of non-living multi-molecular matter. He sees confirmation of this view